**Notification of amended emergency quarantine measures for plant pathogen *Xylella fastidiosa* – 13 January 2016**

**Who does this notice affect?**

This notice provides clients of the Department of Agriculture and Water Resources (the department) who import nursery stock, tissue cultures and corms and bulbs, with an update from the alert issued on [5 November 2015](https://bicon.agriculture.gov.au/BiconWeb4.0/ViewElement/Element/Alert?elementPk=230789) .

**What is the change?**

The Australian Department of Agriculture and Water Resources is implementing emergency quarantine measures to reduce the likelihood of entry of the bacterial plant pathogen [*Xylella* *fastidiosa*](http://www.planthealthaustralia.com.au/sci_name/xylella-fastidiosa/). Implementation of emergency measures began on 19 November 2015 for host plant material from a high risk country.

The department is amending the emergency measures as described in the alert issued on 5 November 2015. The amendments are being made to achieve the following outcomes:

* clearly define what species of bacteria are targeted by the emergency measures
* indicate a change to the additional declaration required on a Phytosanitary Certificate related to the species of bacteria
* outline the requirements for approved arrangements for production of nursery stock exported from high risk countries
* provide the requirements for testing tissue cultures and nursery stock
* to indicate a delay in arrangements for affected bulbs produced under the BKD scheme in the Netherlands to 31 March 2016

**What species of bacteria are targeted under the emergency measures?**

The emergency measures target *Xylella fastidiosa* and all of its sub-species. The sub-species of *X. fastidiosa* including: *fastidiosa*, *multiplex*, *pause*, *sandi*, *tashke* and pear leaf scorch (PLS), all of which are targeted by the measures. In this document, ‘*Xylella fastidiosa*’ means the species *Xylella fastidiosa* and all of its sub-species.

**In summary, what are the measures?**

The following measures apply to plant tissue cultures and nursery stock that are hosts of *X. fastidiosa*, and are applied in addition to current import requirements:

* nursery stock and plant material coming from countries or regions where *X. fastidiosa* occurs will need to be tested offshore and certified as being free from *X. fastidiosa* by the government of the exporting country
* an approved arrangement that ensures the health of plants will need to be in place for off-shore testing and certification of nursery stock from high risk countries.
* material that does not meet the above requirements may be held and tested in an approved post entry quarantine facility for 12 months or nursery stock material may be hot water treated, followed by standard post entry quarantine screening arrangements.

Details of the required measures for tissue culture are outlined in Appendix 1 and for other forms of nursery stock in Appendix 2. Appendices 1 and 2 provide the amended additional declarations required on Phytosanitary Certificates. These emergency measures apply to all the plant species in the listed regulated families of plants (refer to Appendix 3)*.*

Approved arrangements for the production of nursery stock in high risk countries are outlined in Appendix 4. Details of testing and sampling are provided in Appendix 5.

**List of appendices attached to this alert**

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| **Appendix 1** | Import conditions for tissue cultures of species from regulated families |
| **Appendix 2** | Import conditions for Nursery stock - cuttings, rooted plants, budwood, and some corms and bulbs |
| **Appendix 3** | Plant families regulated for *Xylella* fastidiosa |
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| **Appendix 5** | Requirements for PCR testing under Australia’s emergency measures for Xylella fastidiosa |

**Phased introduction of the emergency measures**

The emergency measures will be implemented in two phases:

Phase 1 – Identified *X. fastidiosa* host species from high risk *X. fastidiosa* countries. Measures for material from high risk countries were implemented on **19 November 2015**.

The high risk countries are:

* All countries in the Americas including the Caribbean
* All countries in Europe
* India
* Iran
* Lebanon
* Taiwan
* Turkey.

Phase 2 – Identified *X. fastidiosa* host species from low risk *X. fastidiosa* countries

All other countries not specified as a high risk country will be considered low risk. Measures for low risk material will commence on **19 January 2016**.

Previous import permits will be varied over the following weeks. Any new import permits issued by the department will be issued in line with the revised emergency measures for *X. fastidiosa*.

**What about consignments that are in transit to Australia?**

Phase 1 – Commenced on 19 November 2016.

For Phase 2 – Where a consignment is accompanied by documentation verifying the plant material was shipped prior to the 19 January 2016, the material will be cleared on pre-emergency conditions.

**Will there be further change to the import conditions?**

The department continues to work closely with stakeholders to minimise the disruption to trade. The emergency measures will be reviewed and evolve as information on the spread of the bacteria and host range becomes clearer. A BICON Alert will be issued to notify of any significant changes to import conditions.

**Further information**

If you require further information to the above information we would appreciate you emailing us at imports@agriculture.gov.au (please title your email with ‘Xylella emergency conditions’).

**Appendix 1.** Tissue cultures of species from regulated families (as of 13 January 2016)

|  |  |  |  |
| --- | --- | --- | --- |
| **Country category** | **Off-shore certification** | **On-shore action if the Phytosanitary Certificate is acceptable**  (see note 3) | **On-shore measures for consignments without an acceptable Phytosanitary Certificate** |
| High risk countries | A Phytosanitary Certificate with the following Additional Declaration or equivalent words:  “All tissue cultures in this consignment were derived from mother tissue cultures that were tested by PCR and found free of *Xylella fastidiosa* as indicated on laboratory test report number ......... (insert number/code here).”  (See note 4) | All other current import conditions for the plant species will apply | Tissue cultures must be de-flasked and grown for a minimum of 12 months in government PEQ (see note 1) before testing by PCR. All plants will be tested. A positive detection of *Xylella fastidiosa* will result in destruction of the consignment.  All other current import conditions for the plant species will apply.  OR  Re-export or destroy |
| All other countries and regions | A Phytosanitary Certificate with the following Additional Declaration or equivalent words:  “Tissue cultures in this consignment were derived from plants and tissue cultures that were grown only in ..........(insert country) which is free from *Xylella fastidiosa*” | All other current import conditions for the plant species will apply. | Tissue cultures must be de-flasked and grown for a minimum of 12 months in PEQ (private or government) (see note 1) before testing by PCR. All plants will be tested. A positive detection of *Xylella fastidiosa* will result in destruction of the consignment.  All other current conditions for the plant species will apply.  OR  Re-export or destroy |

**Appendix 2.** Nursery stock - cuttings, rooted plants, budwood, and some corms and bulbs (as of 13 January 2016)

| **Country category**  (see note 5) | **Off-shore certification** | **Action if the Phytosanitary Certificate is acceptable**  (see note 3) | **On-shore measures for consignments that come without an acceptable Phytosanitary Certificate** |
| --- | --- | --- | --- |
| High risk countries | A Phytosanitary Certificate with the following Additional Declaration or equivalent words:  “Plant material in this consignment was produced under an arrangement approved by the National Plant Protection Organisation in accordance with Australian requirements. Plant material in this consignment was tested by PCR and found free of *Xylella fastidiosa* as indicated on laboratory test report number......... (insert number/code here).”  (See note 2) | Current import conditions for the plant species apply. | Plants will be grown for a minimum of 12 months in government PEQ (see note 1) before testing by PCR. All plants will be tested. A positive detection of *Xylella fastidiosa* will result in destruction of the consignment.  All other current conditions for the plant species will apply.  OR  Plants will be hot-water treated at 50°C for 45 minutes. Following treatment, all other conditions for the plant species will apply.  OR  Re-export or destroy. |
| All other countries and regions | A Phytosanitary Certificate with the following Additional Declaration:  “Plant material in this consignment and its parent stock were grown only in ..........(insert country) which is free from *Xylella fastidiosa*” | Current import conditions for the plant species apply. | Plants will be grown for a minimum of 12 months in PEQ (private or government) (see note 1) before testing by PCR. All plants will be tested. A positive detection of *Xylella fastidiosa* will result in destruction of the consignment. All other current conditions for the plant species will apply.  OR  Plant will be hot-water treated at 50°C for 45 minutes. Following treatment, all other conditions for the plant species will apply.  OR  Re-export or destroy. |

Notes

1. There are scheduled fees associated with the growth of nursery stock in an Australian Government Department of Agriculture and Water Resources post entry quarantine facility, which must be met by the importer. The importer is responsible for contacting the facility to confirm all arrangements, including space availability and number of plants, prior to the plant material arriving in Australia. Importers must clearly nominate the facility that their material will be sent to on the import permit application.
2. Nursery stock and tissue cultures from high risk countries must be produced through an arrangement approved by the National Plant Protection Organisation of the exporting country to meet Australia’s requirements (Appendix 4). These arrangements have also been distributed to NPPOs through the IPPC notification (https://www.ippc.int/en/)
3. The department will reserve the right to undertake testing to verify a consignment is free of *X. fastidiosa*.
4. PCR tests that will detect *X. fastidiosa* including recognised sub-species. PCR testing will require the following two tests:
5. the rimM gene sequence real-time PCR test from Harper *et al*. (2010)1,   
   AND
6. the conventional PCR from Minsavage *et a*l. (1994)2 or an equivalent PCR that detects *X. fastidiosa* sub-species pear leaf scorch (PLS).
7. The department will temporarily delay implementation of *X. fastidiosa* emergency conditions for affected host certified bulbs (Narcissus, Hyacinths and Hippeastrum) produced under the Bloembollenkeuringsdienst (BKD) scheme from Netherlands until 31 March 2016. During this period, the department will continue to collaborate with the NPPO, to determine if alternative approved arrangements can be established for both certified and non-certified bulbs.

**Appendix 3**: Plant families regulated for *Xylella* fastidiosa. List current as of 4 November 15

|  |  |  |  |
| --- | --- | --- | --- |
| Acanthaceae | Caryophyllaceae | Lamiaceae | Polygalaceae |
| Adoxaceae | Celastraceae | Lauraceae | Polygonaceae |
| Altingiaceae | Cistaceae | Lythraceae | Portulacaceae |
| Amaranthaceae | Clethraceae | Magnoliaceae | Proteaceae |
| Amaryllidaceae | Commelinaceae | Malpighiaceae | Ranunculaceae |
| Anacardiaceae | Convolvulaceae | Malvaceae | Rhamnaceae |
| Annonaceae | Cornaceae | Meliaceae | Rosaceae |
| Apiaceae | Cucurbitaceae | Montiaceae | Rubiaceae |
| Apocynaceae | Cupressaceae | Moraceae | Rutaceae |
| Aquifoliaceae | Cyperaceae | Myrtaceae | Salicaceae |
| Araliaceae | Ebenaceae | Nyctaginaceae | Sapindaceae |
| Arecaceae | Elaeagnaceae | Oleaceae | Solanaceae |
| Asparagaceae | Equisetaceae | Onagraceae | Talinaceae |
| Asteraceae | Ericaceae | Orobanchaceae | Theaceae |
| Balsaminaceae | Escalloniaceae | Oxalidaceae | Ulmaceae |
| Berberidaceae | Euphorbiaceae | Passifloraceae | Urticaceae |
| Betulaceae | Fabaceae | Paulowniaceae | Verbenaceae |
| Bignoniaceae | Fagaceae | Phytolaccaceae | Vitaceae |
| Boraginaceae | Geraniaceae | Pinaceae | Xanthorrhoeaceae |
| Brassicaceae | Ginkgoaceae | Pittosporaceae | Zygophyllaceae |
| Bromeliaceae | Hamamelidaceae | Plantaginaceae |  |
| Cannabaceae | Hydrangeaceae | Platanaceae |  |
| Caprifoliaceae | Juglandaceae | Poaceae |  |

**Appendix 4:** Approved arrangements for nursery stock from countries with a higher risk of *Xylella fastidiosa* (Pierce’s disease) - (as of 13 January 2016)

These requirements are for arrangements approved under Australia’s emergency measures for *Xylella fastidiosa*. The requirements apply to nursery stock of plants exported from high risk countries as indicated in this BICON alert. These requirements do not apply to imports of true botanical seeds.

The National Plant Protection Organisation (NPPO) of the exporting country will approve the arrangements and ensure that Australia’s requirements are met. Several other parties, including the grower and testing laboratory will need to work with the NPPO to do this. It is anticipated that the supplier will contact the NPPO of the exporting country to establish the arrangements. Australian importers should contact their overseas suppliers to ensure that the work is initiated for the arrangements.

This document describes the overarching systems and processes to ensure that nursery stock that is produced for export to Australia is grown, tested and confirmed free from infection by *X. fastidiosa*. The roles and responsibilities of the key parties involved in the arrangements are also described, as are the requirements for sampling and testing. The exporter and the testing laboratory should verify Australia’s requirements before testing is commenced. The Australian Department of Agriculture and Water Resources retains the right to monitor the arrangements by auditing and by sampling and testing consignments after they arrive in Australia.

**The arrangements**

The arrangements require the following elements:

1. Propagation, growth, testing, certification and export under the authority of the NPPO of the exporting country

2. The facility where plants are grown is insect-proof so that it excludes all insects of the suborder Auchenorrhyncha (leafhoppers, froghoppers, sharpshooters, spittlebugs and treehoppers)

3. Plants for export to Australia are grown for their entire life in the facility regardless of the propagation technique used (e.g. plants grown from seed, grown vegetatively or grown in tissue culture).

4. All the mother plants are tested by the approved protocol (Appendix 5)

* + nursery stock – the mother plants that are the immediate source from which the nursery stock plant lot was propagated are tested
  + tissue cultures –the mother tissue cultures that are the immediate source from which the nursery stock plant lot was propagated are tested

5. The mother plants have been grown under the arrangement, in the facility, for 12 months before they are tested (Diagram 1)

* + nursery stock – the mother plants are protected in the facility for 12 months before testing
  + tissue cultures – the mother tissue culture line is protected and propagated in the facility for 12 months before testing

6. Prior to export, an official sample is drawn from the plant lot and tested according to the approved protocolfor *X. fastidiosa* in Appendix 5. Appendix 5 contains details of sampling and sample size

7. Plant consignments are packed and packaged to prevent infection by *X. fastidiosa*

8. Phytosanitary certificates issued by the NPPO with additional declarations including information that enables tracing of plant lines for export to Australia to test results and the facility in which the lines were grown.

**Roles and responsibilities**

**The NPPO**

The NPPO will provide oversight of the arrangements to ensure that they meet Australia’s requirements. The NPPO is responsible for approving facilities or authorising any independent entities that approve facilities on its behalf. The NPPO may be requested by the Australian Government Department of Agriculture and Water Resources to provide records relevant to the approval and management of the arrangements.

The NPPO or an entity acting under the authority of the NPPO will:

* Inspect the production facility to confirm that:
* phytosanitary requirements are met
* the facility is insect proof
* the facility is constructed and equipped to achieve requirements
* records are maintained by the producer or the facility
* Approve the facility under the arrangement
* audit the facility and records
* Approve sampling of mother plants by the grower for testing or take samples of mother plants
* Take official samples of the plant lot for testing
* Maintain records of:
* approved facilities
* audits of facilities
* phytosanitary practices within facilities
* laboratory tests for *X. fastidiosa*
* Certify that plants exported to Australia are free from *X. fastidiosa*. This will be based on evidence of systems that confirm:
* plants were kept in the registered facility throughout their life, from propagation to export
* testing has been undertaken by a competent laboratory and laboratory reports have been sighted
* Phytosanitary Certificates must include:
* additional declarations that indicate the status of the plant lot
* the facility approval code/number
* the laboratory report code/number

**The grower**

The grower will ensure that:

* phytosanitary conditions for Australia are met
* plants are appropriately tested by an approved testing laboratory
* provide samples of mother plants for testing, if approved by NPPO
* the facility is free from *X. fastidiosa*
* the facility is insect-proof.

The grower will also ensure that

* complete records are maintained of :
* plant lot identifying numbers or codes
* the parentage of the exported plant lots
* dates that plants are introduced to the facility
* mother plants, i.e. plants that are the immediate propagation source from which plant lots were propagated
* pathogens detected in plants in the facility
* arthropods found in the facility
* any plant material destroyed and the reason for the destruction
* all plants destined for export to Australia are transported in insect-proof closed containers or packaging.

**The testing laboratory**

The testing laboratory is approved by the NPPO as competent to undertake the testing required by Australia, using the prescribed testing methods (Appendix 5).

It will:

* use the approved test protocol(Appendix 5)
* record the plant lots or mother plants that are tested and the number of samples tested
* provide the evidence of tests, results and operating processes to the NPPO, as required.

**Diagram 1Appendix 5**: Requirements for PCR testing under Australia’s emergency measures for *Xylella fastidiosa* (as of 13 January 2016)

This appendix provides the requirements for PCR testing under approved arrangements to meet Australia’s emergency measures for Xylella fastidiosa.

The testing will be required for nursery stock, including budwood, cuttings, rooted plants, bulbs and corms. Testing will use the PCR protocols outlined below.

Testing should be undertaken when the bacteria are most likely to be detected - which is when leaves are mature, before senescence, and typically from late summer or in autumn for perennials.

***PCR tests***

PCR testing will require the following two tests:

1. the rimM gene sequence real-time PCR test from Harper *et al*. (2010)1,   
   AND
2. the conventional PCR from Minsavage *et a*l. (1994)2 or an equivalent PCR that detects *X. fastidiosa* sub-species pear leaf scorch (PLS).

***Material to be tested***

* all the mother plants must be tested for *X. fastidiosa*, i.e. the mother tissue cultures or the mother plants that are the immediate source from which the nursery stock plant lot was propagated

AND

* prior to export (up to 8 weeks before), an official sample will be drawn from the plant lot and will be tested for *X. fastidiosa*
* mother plants or mother tissue cultures will have been grown under the arrangement, within the facility, for 12 months before testing.

***Samples from plants***

* when testing the sample from the plant lot, the sample size (number of units) will be set according to Table 1 in ISPM 313 and will be sufficient to detect, with a 95% confidence level, that *X. fastidiosa* is not present in more than 0.5% (level of detection) of each lot, with the units defined as individual plants.
* two tissue samples per unit will be tested from tissue cultures, bulbs and corms
* three tissue samples per unit will be tested from nursery stock plants and cuttings
* samples must include mid-ribs of leaves, if the plant has leaves
* if the material lacks leaves, then living tissue with vascular structures will be sampled

Note: a unit is a tissue culture plantlet, nursery stock plant, a bulb or a corm.

***Bulking of samples for testing***

* DNA extracted from up to 10 samples may be tested in a single PCR as a pool or batch, where a sample is defined as a single piece of tissue
* samples from different species should not be pooled

***Positive controls***

* house-keeping gene positive controls must be run for each batch of tests to confirm that the DNA was extracted successfully
* house-keeping positive controls must be run for each different plant species

***Record keeping and certification***

* the laboratory must record the plant lots and mother plants that are tested and the number of samples tested
* NPPO must verify the laboratory report and retain a copy
* the identifying code or number of the laboratory report must be provided on the Phytosanitary Certificate

***References***

1. Harper, S. J., Ward, L. I., and Clover, G. R. G. (2010). Development of LAMP and real-time PCR methods for the rapid detection of Xylella fastidiosa for quarantine and field applications. Phytopathology 100:1282-1288.
2. Minsavage, G.V., Thompson, C.M., Hopkins, D.L., Leite, M.V.B.C. and Stall, R.E. (1994) Development of a Polymerase Chain Reaction protocol for detection of Xylella fastidiosa in plant tissue. Phytopathology 84: 456-461.
3. ISPM 31 in International Standards for Phytosanitary Methods, No. 1 to 32 (2009), the Secretariat of the International Plant Protection Convention, Food and Agriculture Organization of the United Nations, Rome. pp. 401–420. https://www.ippc.int/en/publications/588/